

SHEET-LIKE LIGHT SOURCE

Patent Number: JP8007614
Publication date: 1996-01-12
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Requested Patent: ☐ JP8007614
Application Number: JP19940134763 19940617
Priority Number(s):
IPC Classification: F21S1/00; G02F1/133; H01L33/00
EC Classification:
Equivalents: JP3116727B2

Abstract

PURPOSE: To provide a sheet like light source in which a light emitting diode is used and which can be mainly used as back light and can emit white light by arranging a blue light emitting diode, a diffusing layer and a transparent film having a fluorescent material in a specific mode on a transparent light conductive plate.

CONSTITUTION: In this sheet-like light source, light emitted from a blue light emitting diode(LED) is partially radiated to an external part except a light conductive plate 2 in the vicinity of the tip, but most light reaches an end surface of the light conductive plate 2 while repeating total reflection in the light conductive plate 2. The light reaching the end surface is reflected by a reflecting film 4 formed on the whole end surface, and repeats total reflection. At this time, the light is diffused by a diffusing layer 3 arranged on the second main surface side of the light conductive plate 2, and a part of the diffused light is absorbed by a fluorescent layer 5, and at the same time, it is radiated after a wave length is converted, and as an emitting light color observed from the first main surface side of the light conductive plate 2, light by synthesizing these light can be observed. For example, in a sheet-like light source having a fluorescent layer composed of an orange fluorescent pigment, an emitting light color from a blue LED 1 can be observed as a white color.

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